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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,399	03/16/2007	Sarah Michelle Lipman	P2B11002USU	8260

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THE ECLIPSE GROUP LLP
6345 Balboa Blvd., Suite 325
Encino, CA 91316

EXAMINER	
XAVIER, ANTONIO J	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
01/26/2012	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JHH@ECLIPSEGRP.COM
PTDocketing@eclipsegrp.com

Office Action Summary	Application No.	Applicant(s)	
	10/599,399	LIPMAN ET AL.	
	Examiner	Art Unit	
	ANTONIO XAVIER	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-58* is/are pending in the application.

5a) Of the above claim(s) *See Continuation Sheet* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1,2,7-10,15,18,22,24-31,36-39,44,47,51 and 53-58* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/5/11*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 3-6,11-14,16,17,19-21,23,32-35,40-43,45,46,48-50 and 52.

DETAILED ACTION

Response to Declaration of Sarah M. Lipman under 37 C.F.R. §1.132

1. The declaration under 37 CFR 1.132 filed July 20, 2011 is **sufficient** to overcome the rejection of claims 1-2, 7-9, 15, 18, 22, 24-27, 29-31, 36-38, 44, 47, 51, 53-56 and 58 based upon 35 U.S.C. §103(a) as being unpatentable over Oikawa et al. (USPN 4,320,292) in view of Lipman et al. (WO 03/104965)..

Examiner notes the claims were rejected using a substitution of a Lambertian surface by itself for an optical guide and scattering particles. Examiner notes paragraphs 7-9 clarify that Applicant's use of the term "scatter" was different from Examiner's use of the term "scattered" regarding the panel propagated light within the panel. Specifically, paragraph 8 discloses a Lambertian surface used in propinquity to another surface.

However, Examiner disagrees with Applicant's interpretation of Nayar et al. (USPN 2004/0070565) in paragraph 10 and would like to clarify the record. Paragraph [0113] of Nayar expressly recites "light reflected from a diffuse (e.g., Lambertian) reflector 508 which is placed **adjacent** to the display region 506 … [t]he illustrated Lambertian reflector arrangement is used to measure the illumination energy field along the **periphery** of the display region 506" (emphasis added).

In other words, Nayar appears to teach a Lambertian surface (item 508) in propinquity with a non-Lambertian surface (item 506) to detect light at the edges of the

non-Lambertian surface as mentioned by Applicant in paragraph 8 (see also Figs. 5 and 18 of Nayar).

Response to Arguments

2. Applicant's arguments filed July 20, 2011 (hereinafter "Remarks") have been fully considered but are moot in view of the new ground(s) of rejection.

However, Examiner would like to comment on a few items to clarify the record.

On page 10 of the Remarks, Applicant notes "applicants' use of the term 'scatter' was intended to explain the concept of light scattering within the claimed display panel, in contrast with a Lambertian surface's tendency to reflect and 'scatter' light away from its surface. These are two different phenomena, and applicants regret any confusion that might have been created.

Examiner greatly appreciates the clarification provided by Applicant. The previous rejections have been withdrawn and replaced with new interpretations consistent with the definition put forth by Applicant.

On pages 12-13 of the Remarks, "Applicants respectfully disagree with the examiner's paraphrase on page 2 of the final Office action defining the AAPA. Rather, if applicants have provided any description of the prior art, applicants rely on what was

expressly stated in the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010" (emphasis added).

Examiner directs Applicant to the admissions found in paragraphs 5, 6, 12, 13, 17 and 18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010. Specifically, the direct quote without paraphrasing from paragraph 13 is as follows:

"As stated in paragraph 6 above, the technology of a display panel without an optical guide and/or scattering particles **was known** at the time the application was filed" (emphasis added).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 7-10, 15, 18, 22, 24-31, 36-39, 44, 47, 51 and 53-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (JP H08-050526 in view of Lipman et al. (WO 03/104965) and further in view of Applicant Admitted Prior Art (hereinafter referred to as "AAPA").

With respect to Claim 1, Tanaka teaches an interface apparatus comprising:

a panel defining at least one edge (Figs. 1-5 and paragraphs [0007]-[0021] teach a light guide panel);

at least one detector arranged along said at least one edge of said panel (Figs. 1-5 and paragraphs [0007]-[0021] teach line sensors); and

an electromagnetic radiation beam emitter operative to direct at least one beam of electromagnetic radiation onto said panel from a variable distance and at a variable angle (Figs. 1-5 and paragraphs [0007]-[0021] teach a light source including a laser pen);

said panel being operative to transmit electromagnetic radiation from said at least one beam impinging thereon to said at least one edge thereof, for detection by said at least one detector (Figs. 1-5 and paragraphs [0007]-[0021]), said panel being operative to attenuate said electromagnetic radiation passing there through to said at least one edge as a function of the distance traveled by the electromagnetic radiation through the panel (Figs. 1-5 and paragraphs [0007]-[0021]. Examiner notes that the light inherently attenuates as a function of time and distance traveled), whereby said at least one detector is operative to provide at least one output (Figs. 1-5 and paragraphs [0007]-[0021]).

However, Tanaka fails to expressly teach an output usable to determine said variable distance and said variable angle (emphasis added).

Lipman teaches a light pen system to receive at least one output and to determine said variable distance and variable angle (p.7, line 23-p.8, line 24). It would have been obvious to one of ordinary skill in the art to modify the detection system of

Oikawa to include the stylus and angle detection of Lipman to provide advanced functionality resulting in an intuitive and responsive user interface (Lipman, p. 5, line 10).

Tanaka in view of Lipman teaches an interface apparatus to determine variable distance and angle of an input device. However, Tanaka in view of Lipman fails to expressly teach a panel without an optical guide and scattering particles therein (emphasis added).

AAPA teaches a standard off-the-shelf panel which scatters light on its own, without need for scattering particles or optical guide channels (paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010). The off-the-shelf material inherently has such light-reflecting or –refracting optical qualities (paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010). One example is a plain Perspex panel (paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010).

Tanaka in view of Lipman teaches a base process/product of an input device having a panel which the claimed invention can be seen as an improvement in that the panel is without optical guides and scattering particles therein. AAPA teaches a known technique of a panel which scatters light on its own, without need for scattering particles or optical guide channels, including but not limited to Perspex, that is comparable to the base process/product.

AAPA's known technique of using a panel which scatters light on its own, without need for scattering particles or optical guide channels, including but not limited to

Perspex would have been recognized by one skilled in the art as applicable to the base process/product of Tanaka in view of Lipman and the results would have been predictable and resulted in replacing the display with optical guides with a panel which scatters light on its own, without need for scattering particles or optical guide channels, including but not limited to Perspex which results in an improved process/product.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

With respect to Claim 2, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said panel is selected from a group consisting of: a display, a mobile telephone display panel, a hand- held computing device display panel, a television panel and an input pad panel (Tanaka, paragraphs [0007]-[0010]; Lipman, Figs. 1 and 4, item 12 and p.3, lines 4-8; and AAPA, paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010. Examiner notes the Perspex panel can be used in conjunction with an LCD display to provide a protective layer as well as input detection).

With respect to Claim 7, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said at least one detector comprises a substantially linear array of detectors (Tanaka, Fig. 1, item 2 and paragraph [0007]-[0023] teach line sensors for X and Y detection).

With respect to Claim 8, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said at least one detector is capable of detecting said electromagnetic radiation at predetermined frequencies in at least one of visible and non-visible ranges (Tanaka, paragraph [0012] teaches the light source has a prescribed wavelength. Examiner further notes that the predetermined frequency in the claim as written is not defined and the group including at least one of visible and non-visible ranges reads on all electromagnetic radiation; Lipman, p. 10, lines 4-16).

With respect to Claim 9, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said electromagnetic radiation beam emitter is operative to provide at least one of a substantially conical beam, at least one substantially collimated beam (Tanaka, paragraph [0012] teaches a laser. Examiner notes lasers are substantially collimated beams; Lipman, p. 10, lines 4-16), at least one beam having a substantially asymmetrical cross section, at least one beam having a substantially pyramidal shape and at least one beam having a substantially polygonal cross section.

With respect to Claim 10, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above. AAPA further teaches providing a plurality of beams (based on prior official notice). It would have been obvious to one of ordinary skill in the art to modify the light pen of Tanaka in view

of Lipman and further in view of AAPA to provide a plurality of beams as taught by AAPA to improve the functionality and versatility of the overall system.

With respect to Claim 15, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said electromagnetic radiation beam emitter is operative to provide at least one of a modulated beam, a beam of visible light and a beam of non-visible electromagnetic radiation (Tanaka, paragraph [0012] teaches the light source has a prescribed wavelength. Examiner further notes that an arbitrary prescribed wavelength can be either visible or non-visible; Lipman, p. 10, lines 4-16).

With respect to Claim 18, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of location, orientation, shape and size of at least one impingement spot defined by impingement of said at least one electromagnetic radiation beam on said panel (Tanaka, paragraphs [0007]-[0023] teach identification of the location of the beam; Lipman, p. 4, line 22-p. 10, line 16).

With respect to Claim 22, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and also

comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter (Lipman, p.7, line 23-p.8, line 26).

The further limitations of Claims 24-26 are rejected for substantially the same reasons as Claim 22, discussed above.

With respect to Claim 27, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, wherein impingement of said beam on said panel provides a substantially elliptical impingement spot (Lipman, p. 10, lines 4-16 teach a conical shaped beam. Examiner notes that a conical shaped beam provides a substantially elliptical impingement spot, particularly when the beam is at an angle).

With respect to Claim 28, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 27, discussed above, and also comprising analysis circuitry operative to determine the elliptical eccentricity of the light incident on the display and determining an angle of intersection between said beam and said panel (Lipman, p.7, line 23-p.8, line 24). AAPA further teaches the equivalence of using the major/minor axis of said elliptical impingement and Lipman's calculation of the elliptical eccentricity for their use in determining an angle of intersection (based on prior

official notice). Examiner notes that the selection of any of these known equivalents would be within the level of one of ordinary skill in the art.

With respect to Claim 29, Tanaka in view of Lipman and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above and comprising analysis circuitry operative to employ detected variations in intensity of said electromagnetic radiation at different locations on an impingement spot defined by impingement of said beam on said panel, thereby to assist in determination of an angle of intersection between said beam and said panel (Lipman, p.7, line 23-p.8, line 24).

Claim 30, an interface method, corresponds to and is analyzed and rejected for substantially the same reasons as the interface apparatus of Claim 1, discussed above.

The further limitations of Claims 31, 36-39, 44, 47, 51 and 53-58 are rejected for substantially the same reasons as Claims 2, 7-10, 15, 18, 22 and 24-29, discussed above.

5. Claims 1-2, 7-10, 15, 18, 22, 24-31, 36-39, 44, 47, 51 and 53-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa et al. (U.S. Pat. No.: 4,320,292) in view of Lipman et al. (WO 03/104965) in view of Nayar et al. (USPN

2004/0070565) and further in view of Applicant Admitted Prior Art (hereinafter referred to as "AAPA").

**Please note Examiner is providing an additional rejection using the alternative embodiment described by Applicant in paragraph 15 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010.*

With respect to Claim 1, Oikawa teaches an interface apparatus comprising:

a panel defining at least one edge (Figs. 1, 2 and 6-11);

at least one detector arranged along said at least one edge of said panel (Fig. 1, items 13 and 14 and Figs. 6-7, items 68); and

an electromagnetic radiation beam emitter operative to direct at least one beam of electromagnetic radiation onto said panel from a variable distance and at a variable angle (Figs. 1-3 and 7 and Col. 6, lines 49-51);

said panel being operative to transmit electromagnetic radiation from said at least one beam impinging thereon to said at least one edge thereof, for detection by said at least one detector (Figs. 1, 2 and 6-11 and Col. 3, lines 28-46 teach the light from the input device is scattered and detected at the edges), said panel being operative to attenuate said electromagnetic radiation passing there through to said at least one edge as a function of the distance traveled by the electromagnetic radiation through the panel (Col. 3, line 65. Examiner notes that the light inherently attenuates as a function of time and distance traveled), whereby said at least one detector is operative to provide at least one output (Col. 3, lines 34-52).

However, Oikawa fails to expressly teach an output usable to determine said variable distance and said variable angle (emphasis added).

Lipman teaches a light pen system to receive at least one output and to determine said variable distance and variable angle (p.7, line 23-p.8, line 24). It would have been obvious to one of ordinary skill in the art to modify the detection system of Oikawa to include the stylus and angle detection of Lipman to provide advanced functionality resulting in an intuitive and responsive user interface (Lipman, p. 5, line 10).

Oikawa in view of Lipman teaches an interface apparatus to determine variable distance and angle of an input device. However, Oikawa in view of Lipman fails to expressly teach a panel without an optical guide (emphasis added).

Nayar teaches the use of a Lambertian surface in propinquity with a non-Lambertian surface to detect light at the edges of the non-Lambertian surface (Figs. 5 and 18 and paragraphs [0109]-[0113] and [0117]-[0118]).

Oikawa in view of Lipman teaches a base process/product of an interface apparatus to determine variable distance and angle of an input device which the claimed invention can be seen as an improvement in that the panel does not have an optical guide. Nayar teaches a known technique of using a Lambertian surface in propinquity with a non-Lambertian surface to detect light at the edges of the non-Lambertian surface that is comparable to the base process/product.

Nayar's known technique of using a Lambertian surface in propinquity with a non-Lambertian surface to detect light at the edges of the non-Lambertian surface

would have been recognized by one skilled in the art as applicable to the base process/product of Oikawa in view of Lipman and the results would have been predictable and resulted in replacing the panel and optical guides of Oikawa in view of Lipman with a Lambertian surface in propinquity with a non-Lambertian surface to scatter light from the input device and detect the light at the edges of the non-Lambertian surface which results in an improved process/product.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

Oikawa in view of Lipman and further in view of Nayar teach an input device having a panel without optical guides. However, Oikawa in view of Lipman and further in view of Nayar are silent regarding a panel without an optical guide and scattering particles therein (emphasis added) (Examiner notes the possibility that the display of Oikawa in view of Lipman and further in view of Nayar may not have scattering particles therein as they may be standard off-the-shelf panels. However, Examiner is adding an additional obviousness rationale in the interest of compact prosecution).

AAPA teaches a standard off-the-shelf panel which scatters light on its own, without need for scattering particles or optical guide channels (paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010). The off-the-shelf material inherently has such light-reflecting or –refracting optical qualities (paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010). One example is a plain Perspex panel (paragraphs 5-7 and 17-18 of the Rule 1.132 Declaration of Sarah Lipman filed on November 2, 2010).

Oikawa in view of Lipman and further in view of Nayar teaches a base process/product of an input device having a panel without optical guides which the claimed invention can be seen as an improvement in that the panel is without optical guides and scattering particles. AAPA teaches a known technique of a panel which scatters light on its own, without need for scattering particles or optical guide channels, including but not limited to Perspex, that is comparable to the base process/product.

AAPA's known technique of using a panel which scatters light on its own, without need for scattering particles or optical guide channels, including but not limited to Perspex would have been recognized by one skilled in the art as applicable to the base process/product of Oikawa in view of Lipman and further in view of Nayar and the results would have been predictable and resulted in replacing the display in propinquity with the Lambertian surface with a panel which scatters light on its own, without need for scattering particles or optical guide channels, including but not limited to Perspex which results in an improved process/product.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made.

With respect to Claim 2, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said panel is selected from a group consisting of: a display, a mobile telephone display panel, a hand- held computing device display panel, a television panel and an input pad panel (Oikawa, Fig. 1, Abstract and Col. 9, lines 17-20).

With respect to Claim 7, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said at least one detector comprises a substantially linear array of detectors (Oikawa, Fig. 1).

With respect to Claim 8, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said at least one detector is capable of detecting said electromagnetic radiation at predetermined frequencies in at least one of visible and non-visible ranges (Oikawa, Col. 6, lines 49-51 teach the light source is an infrared ray. Examiner notes that a detector designed to detect an infrared ray inherently teaches detection of electromagnetic radiation at a predetermined frequency in non-visible ranges. Examiner further notes that the predetermined frequency in the claim as written is not defined and the group including at least one of visible and non-visible ranges reads on all electromagnetic radiation).

With respect to Claim 9, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said electromagnetic radiation beam emitter is operative to provide at least one of a substantially conical beam (Oikawa, Fig. 2 teaches a conical beam and Col. 6, line 53 teaches a conical tip), at least one substantially collimated beam, at least one

beam having a substantially asymmetrical cross section, at least one beam having a substantially pyramidal shape and at least one beam having a substantially polygonal cross section.

With respect to Claim 10, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above. AAPA further teaches providing a plurality of beams (based on prior official notice). It would have been obvious to one of ordinary skill in the art to modify the light pen of Oikawa in view of Lipman in view of Nayar and further in view of AAPA to provide a plurality of beams as taught by AAPA to improve the functionality and versatility of the overall system.

With respect to Claim 15, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and wherein said electromagnetic radiation beam emitter is operative to provide at least one of a modulated beam, a beam of visible light and a beam of non-visible electromagnetic radiation (Oikawa, Col. 6, lines 49-51).

With respect to Claim 18, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at

least one of location, orientation, shape and size of at least one impingement spot defined by impingement of said at least one electromagnetic radiation beam on said panel (Oikawa, Col. 3, lines 34-52).

With respect to Claim 22, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, and also comprising detector output processing circuitry operative to receive at least one output of said at least one detector and to provide an output indication of at least one of the location and angular orientation of said electromagnetic radiation beam emitter (Lipman, p.7, line 23-p.8, line 26).

The further limitations of Claims 24-26 are rejected for substantially the same reasons as Claim 22, discussed above.

With respect to Claim 27, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above, wherein impingement of said beam on said panel provides a substantially elliptical impingement spot (Oikawa, Fig. 2 and Col. 6, line 53 teach a conical shaped beam. Examiner notes that a conical shaped beam provides a substantially elliptical impingement spot, particularly when the beam is at an angle).

With respect to Claim 28, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 27, discussed above, and also comprising analysis circuitry operative to determine the elliptical eccentricity of the light incident on the display and determining an angle of intersection between said beam and said panel (Lipman, p.7, line 23-p.8, line 24). AAPA further teaches the equivalence of using the major/minor axis of said elliptical impingement and Lipman's calculation of the elliptical eccentricity for their use in determining an angle of intersection (based on prior official notice). Examiner notes that the selection of any of these known equivalents would be within the level of one of ordinary skill in the art.

With respect to Claim 29, Oikawa in view of Lipman in view of Nayar and further in view of AAPA teaches the interface apparatus according to Claim 1, discussed above and comprising analysis circuitry operative to employ detected variations in intensity of said electromagnetic radiation at different locations on an impingement spot defined by impingement of said beam on said panel, thereby to assist in determination of an angle of intersection between said beam and said panel (Lipman, p.7, line 23-p.8, line 24).

Claim 30, an interface method, corresponds to and is analyzed and rejected for substantially the same reasons as the interface apparatus of Claim 1, discussed above.

The further limitations of Claims 31, 36-39, 44, 47, 51 and 53-58 are rejected for substantially the same reasons as Claims 2, 7-10, 15, 18, 22 and 24-29, discussed above.

Pertinent Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Heeks et al. (USPN 2003/0193796), Blach (USPN 6,215,409) and Williams (USPN 5,283,968) teach PERSPECT display panels.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTONIO XAVIER whose telephone number is (571)270-7688. The examiner can normally be reached on M-F 9:30am-3:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. X./
Examiner, Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629